

# KENWOOD

## EL POGO DC-20

STEREO MINI-COMPONENT SYSTEM

DC-20X CASSETTE-AMPLI-TUNER

DC-20P POWER AMPLIFIER

DC-20S SPEAKER SYSTEM









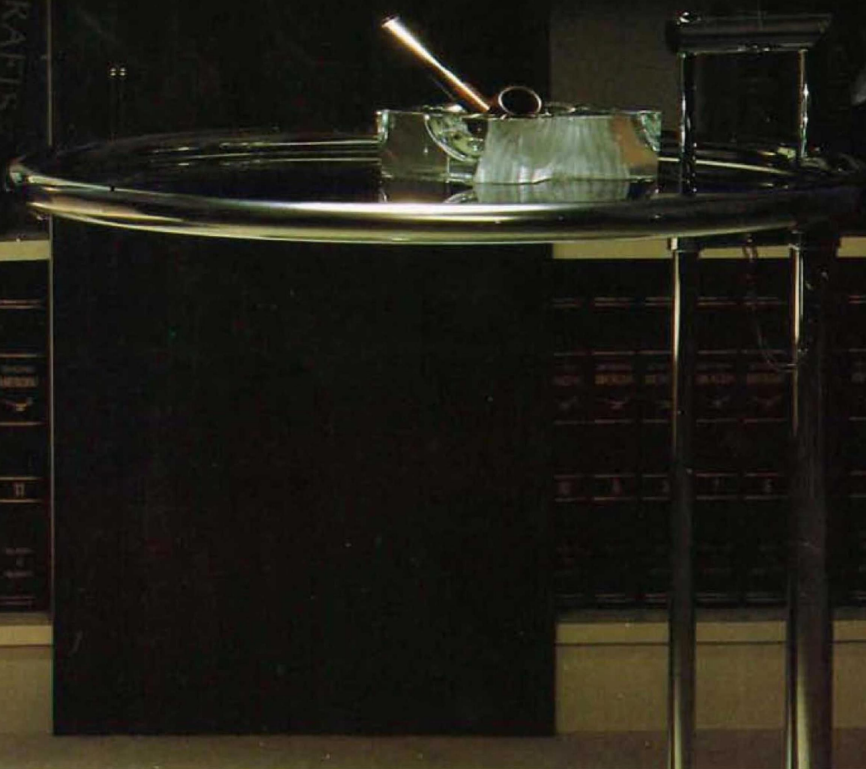
# The DC-20. Genuine hi-fi performance, computerized automatic systems—and the freedom to take it all with you.

The DC-20 may be a portable mini stereo component system, but it has a heart of pure hi-fi gold. That's why it can be stationed as the second or third hi-fi system at home with such satisfying results in terms of sound quality. After all, Kenwood engineers have not minimized their audio expertise along with the DC-20's weight and size!

When you take the DC-20 away with you on vacation, however, the system really shines. Most people have to

put up with the ordinary sound from conventional radio-cassettes. With the Kenwood DC-20, you can actually take your valued hi-fi sound with you. Install it at the weekend or vacation house, or in the recreation vehicle or boat, the sound you'll enjoy is genuine hi-fi. You can even strip it down to its cassette-tuner core for outdoor hi-fi recording or listening through headphones.

But the DC-20 offers even more. Its on-board computer and logic control provide you with automatic systems, such as direct access to any music on tape, multiple repeat, synthesized automatic scan tuning and memory presets—systems that are just perfect for modern lifestyles.





# The rewarding world of professional hi-fi

Today, there's a wide choice in miniaturized stereo component systems available. Some of them reproduce music perfectly adequately for those whose demands are low-keyed. But for anyone with high ambition in terms of quality sound reproduction, the average portable mini system must seem out of the question. The DC-20 solves this

dilemma mainly because it is designed specifically for the hi-fi fan. A check through the specifications will bear this out. The DC-20 is not simply a portable and space-saving stereo system. It is primarily a hi-fi system. Let's review the individual sections and see why.

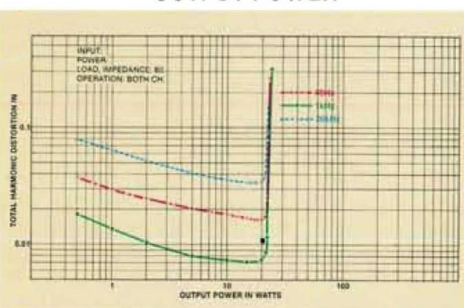
## The amplifier (DC-20P)

### Plenty of power with low distortion

**20 watts per channel min. RMS, both channels driven into 8 ohms, 40Hz to 40kHz, with no more than 0.1% total harmonic distortion.**

Every audiophile in search of a hi-fi system looks first at this important rating. Sufficient power to drive the speakers without "clipping" during transient dynamic signal peaks is one requirement. But what is equally important is that harmonic distortion is kept at minimum levels across the designated frequency range. In the graph, you can see a power/distortion rating that guarantees the excellent basic performance of the DC-20.

**TOTAL HARMONIC DISTORTION VS OUTPUT POWER**



## The tuner (DC-20X)

### Quartz synthesizer scan tuning is not only easier, it's highly accurate

The DC-20 tuner section clearly demonstrates the advantages of an on-board microcomputer coupled with advanced tuner circuitry. So far as tuning chores are concerned, they barely exist. Tuning is automatic. Set the switch to AUTO and press one of the digital tuning keys and the tuner quickly scans the band to find the

nearest available active station. Switch over to MANUAL mode and each press on a tuning key sends the tuner one channel frequency up or down the band. Hold a tuning key down and you can quickly locate a particular frequency—an easy way for memory presetting. But there's more to the tuning system than convenience. Its advanced type quartz-referenced phase-lock-loop (PLL) synthesizer circuitry is also highly accurate. When an active station appears out of the silence, it is already locked to dead-center of the frequency, where distortion and noise are least. This is why no fine-tuning knob is necessary.

### Direct tuning via memory presets

For extra convenience, you can store 10 favorite stations (5 for FM and 5 for AM broadcasts) into the memory bank. These can then be instantly summoned whenever a STATION CALL key is pressed.

### High quality broadcast reception

In the field of tuner circuitry, Kenwood engineers rank among the most expert in the world. To the knowledgeable hi-fi enthusiast therefore, it should come as no surprise to find such excellent tuner performance in the DC-20. A look at the relevant specifications tell an expert that this tuner section's performance is superb.

## The cassette deck (DC-20X)

### Computer-controlled functions are backed by rugged, no-compromise tape drive system

In any cassette deck, it's the stability

and uniformity of the tape transport that determines the accuracy of music reproduced from the delicate cassette tape. Thus, in the DC-20, the cassette deck sector is designed and built to perform just like an independent hi-fi deck. It provides the low wow-and-flutter (0.05%) rating that proves, once again, that the DC-20 is capable of excellent hi-fi performance.

### Hard Permalic magnetic head and metal tape capability help to provide extended frequency response, wide dynamic range

The range of tones that a cassette deck can reproduce without distortion is also an important factor in assessing its performance. In the DC-20, an advanced Permalic magnetic head that's specially designed for use with new metal tape extends frequency response to a high 16kHz.

## The speaker system (DC-20S)

### High quality sound reproduction and rich, dynamic music content

Although these are relatively small speakers, modern techniques of speaker analysis and construction give them a high quality output that will both surprise and delight you. Here is more evidence of the expertise of Kenwood sound engineers which you can easily verify. The speaker enclosures are ruggedly constructed for low resonance and are covered with aluminum sheet with an attractive matte silver finish. Secondary, battery-pack powered monitor speakers are also built into the sides of the DC-20X cassette-tuner "core."







# Hi-fi in the great outdoors

## The entire hi-fi system that you can take with you

Whether you go for a long vacation or just for a weekend, the DC-20 allows you to take your hi-fi sound with you. Its small-suitcase size and weight make it easy to transport from home to hotel or "retreat" home. Moreover, it operates from any car battery in a van, recreation vehicle, 4WD, camper or boat—with no loss of high-fidelity sound reproduction. On vacation, there's no need to feel deprived of your favorite music. The DC-20 lets you take it "on the road" with you.

## Use the DC-20X "core" for a picnic, or for outdoor recording or headphone listening

You can detach the two speakers and main power amplifier and temporarily convert the DC-20 into a lightweight, shoulder-portable hi-fi cassette-tuner. So you can make high-quality live outdoor recordings on tape. Or, if you use headphones, you can listen to the same hi-fi quality sound that you'd hear from the DC-20 back home. If you just need a bit of fun background music at a picnic, you can make use of the DC-20X built-in monitor speakers.

## 3 ways to carry the DC-20

You can select from three, optional-purchase carrying cases designed for the DC-20. There's a totally enclosed suitcase type whose sides open when needed. An alternative is an open-sided type. Both are made of ultra lightweight durable materials with a silver finish. Both have all-round carrying straps as well as handles. For the cassette-tuner "core" there's a shoulder case. The "core" also possesses its own hand-carrying handle.





# Computer-guided automatic cassette systems that work for you

## DPSS: the tape deck's automatic music search system

The DC-20 incorporates a microprocessor and logic control system to provide a totally new concept in easy taped music play. While old-fashioned cue/review systems provide some limited access to music on tape, they are complicated and require more effort than many people are prepared to make. The Kenwood DPSS, however, is a computer-guided system that automatically supplies you with any particular musical piece you wish to hear. For example, if you'd like to skip four tunes ahead and listen to the fifth one, you just press the FF key five times. The deck then quickly locates each unrecorded gap between tunes until it comes to the fifth one,

and starts playing from there. The same thing happens in reverse, except that you need one extra press on the REW key. You can do this for a total of 7 music selections forward or 6 back. The DPSS display keeps you fully informed of current operations, while an LED "dot" indicator confirms your designated number of selections and provides a countdown of selections as they are passed through.

## Repeat the current tune up to 7 times

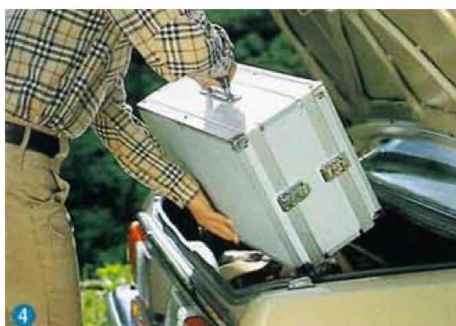
Here's another useful facility provided by the computer. During playback, press the PLAY key for the number of times you'd like to repeat the current tune. The display panel shows operational status and the dot counter

LED's, which illuminate for the number of repeats designated, extinguish one-by-one as each repeat ends. Automatic repeat can be cancelled at any time by a press on the STOP key.

## Indefinite repeat of the entire cassette side

A further valuable feature provided by the cassette deck is to repeat an entire side continuously and indefinitely until commanded to stop. Just press PLAY and FF keys at the same time and flashing LED's in the display panel above remind you that the repeat function is in operation. A press on the STOP key cancels auto-repeat at any time.

## The DC-20 out in the open



- 1 For outdoor recording sessions
- 2 A vinyl leather case for the cassette-amplifier (DC-20X) "core" (CC-20S)
- 3 Open-sided, tough but lightweight aluminum case (CC-20K)
- 4 For safe transporting, a trunk type aluminum case leaves controls accessible (CC-20T)



# DC-20

## More highlights of the DC-20

### •Constant music availability: SOURCE STAND BY

When listening to broadcasts, you can instantly change over to tape just by pressing the tape Play key. Similarly, at the end of a tape, the DC-20 can automatically go into broadcast reception mode.

### •LED graphic display of DPSS and REPEAT •"Flying-start" recording

This allows you to continue with a new recording immediately after listening to a previously recorded track, without passing through Stop mode.

### •AUTO REC MUTE key

One press provides an automatic silent-recording space of about 5 seconds for effective DPSS intertrack location.

### •Digital frequency display

### •Microphone mixing

### •TIMER STAND BY

Connect an audio timer for timed start and stop of listening and recording sessions.

### •One-touch REC & PAUSE switch

Recordings are started with just a single press on this key, which also serves as a recording/pause stand-by selector.

### •Two speaker system connection

With front panel switching.

### •Independent Bass and Treble pushbutton tone controls

### •Loudness switch for low-volume listening

### •Dolby\* noise reduction system reduces noise and tape hiss

### •Accusonic "ambience" switch

Here's a useful feature that improves the stereo image if you are listening close to the DC-20. Further away, Accusonic can be switched off.



## AD-15

### Car Battery Adaptor for DC-20

•DC-AC inverter 12-13.5V DC input, 110-120 or 220-240V output voltages

•Functions as part of the DC-20 system

## SPECIFICATIONS

### DC-20P (POWER AMPLIFIER)

#### Power Output

20 watts per channel minimum RMS, both channels driven at 8 ohms from 40Hz to 20kHz with no more than 0.1% total harmonic distortion.

Both Channels Driven into 8 ohms at 1kHz . 24 watts + 24 watts

Dynamic Power Output into 8 ohms . . . . . 70 watts

Total Harmonic Distortion rated

output at 1kHz . . . . . 0.01%

Signal to Noise Ratio (IHF-A) . . . . . 100dB

Frequency Response . . . . . 10Hz to 100kHz

Input Sensitivity/Impedance . . . . . 150mV/50k ohms

### DC-20X (CASSETTE-AMPLI-TUNER)

#### AUDIO SECTION

Monitor Speaker . . . . . 5" x 3" Cone Type Full Range Speaker

Monitor Power Output . . . . . 3.4 watts (1.0% T.H.D.) into 8 ohms

Pre Output Level . . . . . 150mV

Rec Output Level . . . . . 150mV

Signal to Noise Ratio (IHF-A)/Input Sensitivity

Phono . . . . . 70dB/2.5mV

AUX . . . . . 88dB/150mV

Mic . . . . . 65dB/2.0mV

Frequency Response

Phono RIAA Response . . . . . 30Hz to 15kHz  $\pm 0.2$ dB

Tone Control

Bass . . . . .  $\pm 10$ dB at 100Hz

Treble . . . . .  $\pm 10$ dB at 10kHz

Loudness ( - 30dB Vol.) . . . . . +8dB at 100Hz

#### FM TUNER SECTION

Tuning Frequency Range . . . . . 87.5MHz to 108MHz

Usable Sensitivity . . . . . 13.2dBf (2.5 $\mu$ V/300 ohms)

Total Harmonic Distortion at 1kHz

Mono . . . . . 0.4%

Stereo . . . . . 0.5%

Signal to Noise Ratio at 65dBf

Mono . . . . . 67dB

Stereo . . . . . 62dB

Frequency Response . . . . . 30Hz to 15kHz (+0.5dB, -1.5dB)

Image Rejection Ratio . . . . . 78dB

Alternate Channel Selectivity . . . . . 55dB ( $\pm 400$ Hz)

Stereo Separation . . . . . 36dB at 1kHz

30dB at 50Hz to 10kHz

#### AM TUNER SECTION

Tuning Frequency Range . . . . . 530 to 1,620kHz (USA & Canada)

522 to 1,611kHz (Others)

Usable Sensitivity (Loop) . . . . . 700 $\mu$ V/m

Signal to Noise Ratio . . . . . 45dB

Selectivity . . . . . 35dB

#### CASSETTE DECK SECTION

Track System . . . . . 4-Track 2-Channel Stereo Recording/

Playback

Motor . . . . . Electronically Controlled DC motor

Head REC /PLAY . . . . . Permalic Hi-B Permalloy Head

ERASE . . . . . Sendust Alloy Ferrite Head

Wow & Flutter . . . . . 0.05% (WRMS), 0.18% (DIN)

Signal to Noise Ratio . . . . . 61dB (Metal & CrO<sub>2</sub>),

60dB (Nor) at Dolby ON.

Harmonic Distortion . . . . . 1.0% at 1kHz, 0VU, Metal Tape

Frequency Response

Normal Tape, CrO<sub>2</sub> Tape . . . . . 25Hz - 15kHz

Metal Tape . . . . . 25Hz - 16kHz

### DC-20 S (SPEAKER SYSTEM)

System . . . . . 2 way, 2 Speakers

Enclosure . . . . . Bass-Reflex (Passive Radiator type)

Mounted Drivers

Low-Mid Freq. Driver . . 100mm (4") Cone Type

High Freq. Driver . . . . 25mm (1") Dome Type

Impedance . . . . . 8 ohms

Maximum Input Power . . 30 watts

Sensitivity . . . . . 87dB/w at 1m

Frequency Response . . . 70Hz to 20kHz

Crossover Frequency . . . 3kHz

Finish . . . . . Aluminum sheet wrapped particle board with silver painted finish

#### GENERAL

	DC-20X	DC-20P	DC-20S
Power Requirement	60Hz, 120V (USA & Canada) or 50/60Hz	110 - 120/220 - 240V	-
Battery Drive	DC-12V	-	-
AC Outlet	-	Switched 1	-
Power Consumption	40 watts	120 watts at rated power output	-
Weight	13.7 lbs (6.2kg)	7.7 lbs (3.5kg)	5.5 lbs (2.5kg)
Dimensions W	11-13/32" (290mm)	11-13/32" (290mm)	5-1/32" (128mm)
H	9-3/16" (233mm)	3-5/16" (79mm)	12-5/32" (309mm)
D	5-29/32" (150mm)	5-29/32" (150mm)	5-3/32" (129mm)
DC-20XP H	12-5/32" (309mm)		

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

\*Trademark of Dolby Laboratories Licensing Corp.

A product of

## TRIO-KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

#### KENWOOD ELECTRONICS, INC.

1315 E. Watsoncenter Rd, Carson, California 90745.

75 Seaview Drive, Secaucus, New Jersey 07094.

1141 North Tower Lane, Bensenville, Illinois 60106, U.S.A.

TRIO-KENWOOD CANADA INC., 1070 Jayson Court, Mississauga, Ontario, Canada L4W 2V5

TRIO-KENWOOD ELECTRONICS, N.V. Leuvensesteenweg 504 B-1930 Zaventem, Belgium

TRIO-KENWOOD ELECTRONICS GmbH

Rudolf-Braas-Str. 20, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A. 5, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD SVENSKA AB, Kemistvagen 10A, P.O. Box 68, S-183 21 Taby, Sweden

TRIO-KENWOOD AG Unterboesch 6331 Huenenberg/ZUG Switzerland

TRIO-KENWOOD (AUSTRALIA) PTY. LTD.

4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.

Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong